

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1-12 (Cancelled)

13. (New) A separator disc for a centrifuge, the separator disc including first and second opposed surfaces, the first surface including a first material having a surface energy and into which first surface, at least in sections, a second material is diffused by a surface treatment, which diffusion changes the surface energy of the sections of the first surface of the separator disc.

14. (New) A separator or liquid-bowl screw-type centrifuge, comprising a centrifugal drum and a separator disc stack arranged in the centrifugal drum, the separator disc stack including separator discs according to Claim 13.

15. (New) The separator according to claim 14, wherein the separator discs are completely surface-treated on both the first and second surfaces of the separator discs.

16. (New) The separator according to Claim 14, wherein the surface treatment is adapted to a surface energy of one of a light and a heavy phase to be separated in the separator.

17. (New) The separator according to Claim 14, wherein the first material includes high-grade steel and the second material includes a ceramic material.

18. (New) The separator according to Claim 14, wherein different materials are diffused into different sections of the separating discs.

19. (New) The separator according to Claim 14, wherein different surface treatments changing the surface energy are carried out on the first and second surfaces of the separating discs.

20. (New) The separator according to Claim 19, wherein the different surface treatments are carried out radially inside and outside a separating zone of the separator.

21. (New) The separator according to Claim 19, wherein the different surface treatments are carried out on the separator discs radially inside and outside a rising duct of the separator.

22. (New) The separator according to claim 13, wherein the separator disc is completely surface-treated on both the first and second surfaces of the discs.

23. (New) The separator according to Claim 13, wherein the surface treatment is adapted to a surface energy of one of a light and a heavy phase to be separated in the separator.

24. (New) The separator according to Claim 13, wherein the first material includes high-grade steel and the second material includes a ceramic material.

25. (New) The separator according to Claim 13, wherein the surface treatment includes different second materials that are diffused into different sections of the separating disc.

26. (New) The separator according to Claim 13, wherein different surface treatments changing the surface energy are carried out on the first and second surfaces of the separating disc.

27. (New) The separator according to Claim 13, wherein the sections comprise less than a total area of the first surface of the separator disc.

28. (New) The separator according to Claim 14, wherein the separator discs are surface-treated in sections and the sections comprise less than a total area of the separator discs.

29. (New) A method of increasing the separation effect of a separator disc, the method steps comprising:

providing a separator disc including first and second opposed surfaces, the first surface including a first material having a surface energy; and

diffusing a second material into sections of the first surface, which diffusion changes the surface energy of the sections of the first surface thereby increasing the separator effect of the separator disc along the sections of the first surface.